WHAT IS CLAIMED IS:

1. A fuel injection system for an internal combustion engine comprising:

an intake pipe equipped with a throttle valve;

an upstream fuel injection valve provided upstream from said throttle valve;

a downstream fuel injection valve provided downstream from said throttle valve;

means for determining each fuel injection quantity of fuel injection valves on the upstream and downstream sides on the basis of a plurality of parameters including a throttle opening θTH and engine speed NE;

means for detecting a rate of change of said throttle opening in an injection-valve closing direction; and

means for stopping fuel injection of said upstream fuel injection valve when said rate of change is larger than a reference rate of change.

2. The fuel injection system for an internal combustion engine according to claim 1, further comprising means for reducing an injection quantity of said downstream fuel injection valve only during a predetermined time period when injection of said upstream fuel injection valve is stopped.

3. The fuel injection system for an internal combustion engine according to claim 1, the means for determining the fuel injection quantity of each of the fuel injection valves comprising:

an upstream injection quantity determination unit for seeking a basic injection quantity of the upstream injection valve based on an injection rate and a total injection quantity, and multiplies the basic injection quantity by one or more correction factors including an intake temperature correction factor and a cooling water correction factor to determine the injection quantity of the upstream injection valve; and

a downstream injection quantity determination unit for determining an injection

quantity of the downstream injection valve based on the upstream injection quantity and the total injection quantity.

4. The fuel injection system for an internal combustion engine according to claim 1, wherein the means for stopping fuel injection of said upstream fuel injection valve stops an operation of the upstream injection valve in each of four cylinders so that fuel does not adhere in high amounts to the throttle valves associated with each of the cylinders when the throttle valves are abruptly closed.

5. The fuel injection system for an internal combustion engine according to claim 2, wherein after the predetermined period of time has past, the injection quantity of the downstream fuel injection valve increases to an injection quantity level equal to the injection quantity of the downstream fuel injection valve prior to stopping of the injection from the upstream fuel injection valve.

6. The fuel injection system for an internal combustion engine according to claim 5, wherein the injection quantity of the downstream injection valve gradually increases in a step-wise manner based on a lean rendering correction factor after the predetermined period of time has past.

7. A method for injecting fuel in an internal combustion engine with a fuel injection system, the fuel injection system having an intake pipe equipped with a throttle valve; an upstream fuel injection valve provided upstream from said throttle valve; a downstream fuel injection valve provided downstream from said throttle valve, the method comprising the steps of:

determining each fuel injection quantity for each of the fuel injection valves on the upstream and downstream sides on the basis of a plurality of parameters including a throttle opening θTH and engine speed NE;

detecting a rate of change of said throttle openings in an injection-valve closing direction; and

stopping fuel injection of said upstream fuel injection valve when said rate of change is larger than a reference rate of change.

8. The method for injecting fuel in an internal combustion engine according to claim 7, further comprising the step of reducing an injection quantity of said downstream fuel injection valve only during a predetermined time period when injection of said upstream fuel injection valve is stopped.

9. The method for injecting fuel in an internal combustion engine according to claim 7, the step of determining the fuel injection quantity of each of the fuel injection valves further comprises the steps of:

seeking a basic injection quantity of the upstream injection valve based on an injection rate and a total injection quantity, and multiplying the basic injection quantity by one or more correction factors including an intake temperature correction factor and a cooling water correction factor to determine the injection quantity of the upstream injection valve; and

determining an injection quantity of the downstream injection valve based on the upstream injection quantity and the total injection quantity.

10. The method of injecting fuel in an internal combustion engine according to claim 7, wherein stopping fuel injection of said upstream fuel injection valve includes stopping an operation of the upstream injection valve in each of four cylinders so that fuel does not adhere in high amounts to the throttle valves associated with each of the cylinders when the throttle valves are closed abruptly.

11. The method of injecting fuel in an internal combustion engine according to claim 8, after the predetermined period of time has past, further comprising the step of increasing the injection quantity of the downstream fuel injection valve to an injection quantity equal to the injection quantity of the downstream fuel injection valve prior to stopping of the injection from the upstream fuel injection valve.

12. The method of injecting fuel in an internal combustion engine according to claim 11, wherein gradually increasing the injection quantity of the downstream injection valve in a step-wise manner based on a lean rendering correction factor, after the predetermined period of time has past.